

REMARKS

Foreign Priority:

Applicant thanks the Examiner for acknowledging Applicant's claim to foreign priority under 35 U.S.C. § 119(a)-(d), and for confirming that the certified copy of the priority document has been received at the Patent Office.

Drawings:

Applicant thanks the Examiner for indicating that the drawings filed with the present application have been approved.

Information Disclosure Statement:

Applicant thanks the Examiner for initialing and returning Form PTO/SB/08 A & B filed on December 19, 2000, thus indicating that all of the references listed thereon have been considered.

Claim Rejections:

Claims 1-16 are all of the claims that have been examined in the present application, and currently all of the claims stand rejected.

35 U.S.C. § 112, 2nd Paragraph Rejection - Claims 1-16:

Claims 1-16 stand rejected under 35 U.S.C. § 112, 2nd paragraph as being indefinite. Specifically, the Examiner has asserted that claims 1 and 9 are not clear.

Applicant has amended the claims, including claims 1 and 9, as shown in the previous section to address the above rejection and to clarify the claimed subject matter. Applicant submits that these amendments adequately address the Examiner's concerns regarding these

claims, and hereby requests the Examiner reconsider and withdraw the above 35 U.S.C. § 112, 2nd paragraph rejection of these claims.

Further, Applicant notes that the above referenced claim amendments have been made to merely clarify the claimed invention and are not intended to narrow the original scope or spirit of the claims, in any way.

35 U.S.C. § 103(a) Rejection - Claims 1-4, 6, 8-12, 14 and 16:

Claims 1-4, 6, 8-12, 14 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,180,641 to Burns et al. in view of U.S. Patent No. 5,206,775 to Wilson. In view of the following discussion, Applicant respectfully traverses the above rejection.

The Examiner is primarily relying on Burns to teach the present invention. In doing so the Examiner has indicated that the diodes **27a** and **27b** correspond to the “energy consuming member” and the “switching member” of the present invention. Specifically, the Examiner states:

“Diodes conduct when a voltage threshold is met, and as such, one diode can be reasonably considered to be switching member and another series connected diode, an energy consuming member. Both or all the diodes in the stack (27a-e) essentially switch and consume energy.” *See Office Action, page 3.*

Although the Examiner’s above interpretation, of the present claim language, is very broad, Applicant submits that even if the Examiner’s interpretation were accepted, the present invention is not obvious in view of the Burns and Wilson references.

Specifically, claims 1 and 9 (and newly added claims 17 and 18) state that the “first shunt circuit directly short circuit[s] the terminals of [the] module if the voltage at [the] terminals of

[the] module falls below a particular lower voltage threshold value.” *See* claims 1, 9, 17 and 18. However, in Burns there is no disclosure that the series of diodes **27a-e** would short circuit the terminals of the battery when the voltage falls below a particular level. In fact, the diode path in Burns, would be open at all times, as long as there is enough voltage to exceed the “voltage threshold” referred to by the Examiner. Stated differently, in Burns once the “voltage threshold” is reached the diodes would be opened and would remain open. Thus, there is no disclosure of short circuiting the battery when the voltage falls below a certain level.

This lack of disclosure in Burns is not cured by the Wilson reference.

In view of the foregoing, Applicant submits that even if one of ordinary skill in the art would have been motivated to combine the teachings of Wilson with Burns (which Applicant does not admit), the resultant combination would fail to teach or suggest each and every feature of the claimed invention. Therefore, the Examiner has failed to establish a *prima facie* case of obviousness with respect to claims 1 and 9. Accordingly, Applicant hereby requests the Examiner reconsider and withdraw the above 35 U.S.C. § 103(a) rejection of these claims. Further, as claims 2-4, 6, 8, 10-12, 14 and 16 depend on these claims, respectively, Applicant submits that these claims are also allowable, at least by reason of their dependence.

Additionally, Applicant notes that newly added claims 17 and 18 are allowable for at least the same reasons as claims 1 and 9.

35 U.S.C. § 103(a) Rejection - Claims 5, 7, 13 and 15:

Claims 5, 7, 13 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Burns in view of Wilson, in further view of U.S. Patent No. 5,880,575 to Itou et al.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No.: 09/739,386

Our Ref.: Q62330
Art Unit: 2836

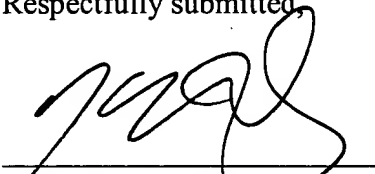
However, because these claims are dependent on claims 1 and 9, respectively, and because Itou fails to cure the deficient teachings of Burns and Wilson with respect to these claims, Applicant submits that these claims are also allowable, at least by reason of their dependence.

Conclusion:

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


Terrance J. Wikberg
Registration No. 47,177

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Date: December 10, 2003